

99-D-103, Isotope Sciences Facility, Lawrence Livermore National Laboratory, Livermore, California

(Changes from FY 2000 Congressional Budget Request are denoted with a vertical line [|] in the left margin.)

Significant Changes

- # The TEC and TPC for this project have been reduced by the amount of the FY 2000 rescission enacted by P.L. 106-113.
- # Initiation of design and construction activities slipped to FY 2000 due to delays associated with the congressionally mandated independent assessments. These delays have not impacted the TEC or TPC of the project.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost (\$000)	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 1999 Budget Request (<i>Preliminary Estimate</i>)	1Q 1999	4Q 1999	2Q 2000	2Q 2002	19,400	19,800
FY 2000 Budget Request	4Q 1999	1Q 2003	2Q 2000	2Q 2004	17,400	17,700
FY 2001 Budget Request (<i>Current Baseline Estimate</i>)	2Q 2000	3Q 2003 ^a	3Q 2000	2Q 2004	17,392	17,692

^a Project design and construction components are organized into separate phases with construction on individual phases proceeding upon completion of the design for that phase.

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
1999	2,000	2,000	0
2000	1,992 ^a	1,992	2,300
2001	5,000	5,000	5,700
2002	4,400	4,400	5,400
2003	4,000	4,000	3,700
2004	0	0	292

3. Project Description, Justification and Scope

This project provides for a major rehabilitation of the nuclear chemistry facilities at Lawrence Livermore National Laboratory to extend the life of these essential program facilities. The principle objective of the project is to enhance the radio chemistry research, analytical, and characterization services provided to Defense Program activities at LLNL. These facilities also support critical analytical waste characterization and programmatic environmental monitoring activities as well.

The project provides for a seismic retrofit and construction of an office addition to the Isotope Science Facility (Building 151), retrofit of Building 151/Building 154 ventilation systems, decontamination of the Refractory Materials Facility (Building 241). The current nuclear chemistry building (B-151) is a 31-year old wet-chemistry research building in need of a major rehabilitation to extend its life in support of the Weapons Stockpile Stewardship Program. The seismic rating of Building 151 does not meet current code requirements. This project will provide the seismic modifications necessary to meet current code requirements for performing isotopic research and to support the ongoing mission.

The Building 151 Office Addition is approximately 22,000 square feet contiguous to B-151. It resolves long-standing co-location and program operating efficiency issues in a cost-effective package. Exterior treatment will be selected consistent with the existing building, with access provided directly from Building 151 at both floor levels. The addition will contain offices, conference and meeting rooms, elevator, rest rooms, programmatic storage, and various support facilities.

The existing Building 151 HVAC system is inefficient, difficult to maintain, and does not meet current requirements for exhaust and control. The majority of mechanical work entails replacing older fume-hood and glove box exhaust systems with up-to-date variable air volume systems. Two air handling units will be converted from constant-volume to variable-air-volume systems with variable-frequency drives. Building 154 is underutilized due to the difficulties in balancing the three air-pressure zones as required by researchers. To fully utilize this building for wet-

^a Original appropriation was \$2,000,000. This was reduced by \$8,000 for the FY 2000 rescission enacted by P.L. 106-113.

chemistry laboratory use, the existing HVAC system, retention tank system, utilities, and fire-protection system must be upgraded. The HVAC work done under a FY 1998 General Plant Project corrected some of the HVAC system problems but not all. In addition, approximately 11 new fume hoods with associated exhaust ductwork, fans, and controls will be provided. B-151 and B-154 HVAC modifications and fume hood replacements will rehabilitate these high downtime and high maintenance subsystems and extend life to meet the current mission. Some safety and operational benefits also result.

After moves are completed from Building 241, it will be characterized and decontaminated for future use by Defense Programs at LLNL. Consolidation of operations from B-241 and personnel from four older trailers complete the efficiency and cost-driven elements, which though minor in cost, have substantial operational benefits.

Along with the seismic retrofit and HVAC system/fume hood replacement, the project encompasses program consolidation for increased efficiency of operations, indirect cost savings, and safety of operations benefits. These are reflected respectively in the B151 Addition, the B-154 HVAC modifications, and program moves from B-241 and various trailers.

Project Milestones:

FY 2000:

Start Design: B-151 Seismic Upgrade, HVAC & Addition	2Q
B-241 Characterization and Decontamination	
B-154 HVAC	

Start Construction: B-241 Characterization and Decontamination	3Q
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FY 2001:

Start Construction: B-154 HVAC	1Q
Start Construction: B-151 Seismic Upgrade	3Q
Start Construction: B-151 Office Addition	4Q

4. Details of Cost Estimate

(dollars in thousands)		
	Current Estimate	Previous Estimate
Design Phase		
Preliminary and Final Design costs (Design Drawings and Specifications - \$1,080)	1,350	1,350
Design Management Costs (0.1% of TEC)	20	20
Project Management Costs (0.5% of TEC)	80	80
Total Design Costs (8.3% of TEC)	1,450	1,450
Construction Phase		
Improvements to Land	275	275
Buildings	7,050	6,875
Utilities	80	155
Standard Equipment	960	940
Removal Cost Less Salvage	2,080	2,160
Inspection, Design and Project Liaison, Testing, Checkout and Acceptance	770	785
Construction Management (6.2% of TEC)	1,080	1,100
Project Management (2.9% of TEC)	500	505
Total Construction Costs (73.6% of TEC)	12,795	12,795
Contingencies		
Design Phase (1.4% of TEC)	235	235
Construction Phase (16.7% of TEC)	2,912	2,920
Total Contingencies (18.1% of TEC)	3,147	3,155
Total, Line Item Costs (TEC) ^a	17,392	17,400

The current estimate is based on the Conceptual Design Report of March 1997 and the supplement dated April 1998.

5. Method of Performance

- | Contracting arrangements are as follows: Design will be performed by A-E and LLNL forces.
- | Construction will be accomplished by fixed-price contracts awarded on the basis of competitive bidding.
- | Activation will be done by LLNL forces.

^a Escalation rates taken from the FY 2001 DOE escalation multiplier tables (January 1999 update).

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 1999	FY 2000	FY 2001	Outyears	Total
Project Costs						
Facility Costs						
Design	0	0	1,370	240	75	1,685
Construction	0	0	930	5,460	9,317	15,707
Total, Line item TEC	0	0	2,300	5,700	9,392	17,392
Total Facility Costs (Federal and Non-Federal)	0	0	2,300	5,700	9,392	17,392
Other Project Costs						
Conceptual design costs	150	0	0	0	0	150
NEPA documentation costs	25	0	0	0	0	25
Other project-related costs	75	0	0	0	50	125
Total, Other Project Costs	250	0	0	0	50	300
Total Project Cost (TPC)	250	0	2,300	5,700	9,442	17,692

7. Related Annual Funding Requirements

(FY 2004 dollars in thousands)

	Current Estimate	Previous Estimate
Annual facility operating costs	740	740
Total related annual funding (operating from FY 2004 through FY 2023)	740	740